

REMARKS

Claims 1-11 have been canceled. Claims 12-25 have been added. The application now includes claims 12-25.

In the office action, claims 1-11 were rejected as being indefinite under 35 U.S.C. 112, second paragraph. The Examiner indicated that because the claims were unclear it was not possible to indicate if allowable subject matter was present in the claims.

In response, the claims have been canceled, and substitute claims drawn to the same subject matter (independent claims 12 and 18 are drawn to a sensor, and independent claim 22 is drawn to an object detection system for a vehicle which uses the claimed sensor) have been added. These claims are in a format better suited for U.S. practice.

The most pertinent prior art appears to be DE 199 51 123 A1, which was provided by information disclosure statement (IDS). This German document corresponds to U.S. Patent 6,686,867 (not yet of record, but which should be reviewed in connection with DE 199 51 123 A1). This reference describes a radar transmitting antenna showing a main radiation area and two secondary radiation areas which are necessarily present in each antenna characteristic. The receiving antenna is able to receive reception signals from objects within the main radiation area and the secondary radiation areas.

The radiation characteristic of the antenna is performed in U.S. Patent 6,686,867 by a complex and bulky control means in a form of a so-called Rotman lens (c.f. Figure 6).

In contrast, the present invention is characterized by a very simple way of generating the main radiation and the second radiation area. This is performed by detuning the antenna so as to deform the main radiation area which now is not perpendicular to the irradiation surface of the planar transmitting antenna (this is called the "geometric orientation of the "transmitting antenna" in original claim 2 (now canceled)) but forms an acute angle with the perpendicular direction. The detuning enhances the secondary irradiation area (the secondary lobe) on that side of the perpendicular from which the main radiation area has been directed away (see Figure 1 of the present application).

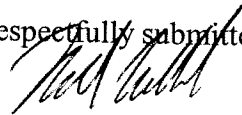
In the present invention, the radiation areas, as shown in Figure 1 of the application, are generated without complicated control structures like a Rotman lens. This is done simply by detuning the antenna and using the secondary radiation area enhanced thereby for detection purposes. No references of record show these features as now recited in claims 12-25.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 12-25 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190

Tel. (703) 787-9400
Fax. (703) 787-7557

Customer No.: 30743